

Application No. 09/894,375

NANS 1000-2

REMARKS

Applicant has elected Group I, and amended claim 15 so that claims 15-31 are consonant with the restriction requirement.

Applicant notes further that the Examiner is misreading Nakamura et al. (U.S. Patent No. 5,388,020) in the explanation justifying the restriction requirement. In paragraph 2 of the Detailed Action, the Examiner mistakenly connects "sputtering, plating and ion-plating" of "a thin magnetic film" with a "film of Ni-P" (known to be non-magnetic). He reads on further to where surface roughness is indicated as "0.002 to 0.003 micrometers Ra". The Examiner refers to these Ra values in equivalent units as 2-3 nanometers (nm). The final sentence of the Examiner's paragraph 2 is simply incorrect. Nakamura et al. has NOT shown that the alternate process of sputtering (or ion plating) produces a Ni-P film with surface roughness 2-3 nm Ra.

It is understandable why a reader may be misled by the rather condensed text cited in Nakamura et al. A long pause is needed at the end of Nakamura et al., column 1-line 20 before starting column 1, line 21, in order to separate "thin magnetic film" processes from the Ni-P film. Nakamura continues and states (1-21) that the Ni-P "film" is "several tens of micrometers in thickness". Ten (10) micrometers translates to 100,000 Angstroms or 10,000 nm or 400 microinches, the units customarily used for this typical Ni-P layer thickness which then requires polishing to obtain a 2-3 nm finish. Sputtering would never be used to build up such a thick layer. Expensive vacuum sputtering equipment is more suited to deposit thin layers. Thus, the non-magnetic Ni-P of Nakamura et al. should more properly be considered as a thick film, whereas a sputtered magnetic layer is a true thin film, being typically 500 to 1000 Angstrom (50 to 100 nm) in thickness.

A clearer picture, with more details of the use of sputtering in conventional disk manufacturing, is provided in Nakamura et al., "Description Of The Preferred Embodiment, Example 1", column 11, line 53-65. It is important to note that Nakamura (column 11-line 62) mentions that the mirror finish of the Ni-P layer, "surface roughness not more than 0.002 micrometers" (20 Angstrom or 2 nm) is achieved by double sided polishing. It is polishing that produces the 2 nm finish in Nakamura et al., NOT sputtering or ion plating, as incorrectly assumed by the Examiner.

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CONCLUSION

Applicant submits that the application is now in form for allowance, and such action is respectfully requested.

The Commissioner is hereby authorized to charge any underpayment of fees in connection with this communication, or credit any overpayment, to our Deposit Account No. 50-0869 (NANS 1000-2).

Respectfully submitted,

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